DM600*i*

DM610*i*

bedienungsanleitung
gebruiksaanwijzing
manuel d'utilisation
manual del usuario
操作說明書

user manual

DM620*i*

DM630*i*

DM640*i*

Check the contents of the carton as follows:

DM600/DM610	*2 loudspeakers + user manual*
DM620	*1 loudspeaker + 4 spike feet with lock nuts + user manual in one carton only*
DM630/DM640	*1 loudspeaker + 4 spike feet with lock nuts + accessory pack containing 1 alternative port and 1 blanking plate + user manual in one carton only*

Where supplied, the spike feet are packed into one of the polystyrene end trays.

POSITIONING YOUR LOUDSPEAKERS

It was once said that correct placement of a cheap pair of loudspeakers could produce better sound than incorrect placement of a much more expensive product. Whilst this is somewhat of an exaggeration, it is still true that changing the position of your loudspeakers will have a greater influence on the sound than any other variable under your control.

The spacing between your loudspeakers will depend on the size of your listening room and the distance of your seating from the loudspeakers. As a general rule they should not be closer than 1.5m (5ft) and the space between them should not exceed the distance of your seating for listening. Placement of the two loudspeakers and the listener on the points of an equilateral triangle is not a bad rule to follow.

The position of the loudspeakers in relation to the walls of the listening room can have a noticeable effect on reproduction – especially at low frequencies. Generally, bass will increase relative to the middle and high frequencies as the loudspeakers are moved nearer to the walls.

Placement in the corner of the room may give rise to too much bass, with a boomy quality. However, the smallest systems in the range -DM600 and DM610 - may benefit from some bass reinforcement from the rear wall. The others should be in a free standing position, at least 0.5m (2½ft) from the rear wall. With DM630 and DM640 the level of bass may be adjusted by altering the port to compensate for room effects. These speakers are supplied with 2 different length ports and a blanking-off plate. The longer port is fitted. If you wish to increase the level of bass replace this port with the shorter version. Fitting the blanking-off plate will reduce the bass level.

The bass will generally be more even if the distances to the rear and side walls are different, a ratio of 1:3 often gives good results.

We have been discussing the proximity of loudspeakers to the wall in the context of lower frequencies; but it is also worth mentioning that stereo information in a front-back plane will also improve if the rear wall is at least 0.5m (2½ft) from the back of the loudspeaker.

The choice as to which of the four walls to place your loudspeakers near will largely depend on your arrangement of furniture. But again, the option of the longer, as opposed to the shorter wall is well worth trying.

A final word about symmetry. For best balance of stereo information the boundary conditions relative to each of the two loudspeakers should be as acoustically similar as possible.

INSTALLATION

The best balance of sound is achieved when the listeners' ears are within ±5° of the reference axis in the vertical plane (see specifications for the definition of reference axis). This equates to a range in height of 0.5m (20in) at a typical listening distance of 3m (10ft). At progressively larger angles, the change in the relative time

delay between the drive units will gradually cause a response dip around the mid to high crossover frequency.

DM600 and DM610 should be used on rigid open stands or shelves to achieve the correct listening height. Your dealer will be able to advise you as to suitable stands.

DM620, DM630 and DM640 will normally be floor standing and adjustable spike feet are supplied for this purpose. These feet have several advantages: They level the system on an uneven floor, providing a secure mechanical base against which the drive units work. They pierce through carpet direct to the solid floor, avoiding crushing of the pile.

The small contact area with the floor minimises the transmission of vibration. This is especially important with suspended wooden floors which may radiate these vibrations as coloration.

You should, however, take some simple precautions with the feet to avoid damage:

Do not position the cabinets by "walking" them on the feet. This will put undue sideways pressure on the mountings and may loosen them.

Keep the spikes away from your feet and any cables that may be hidden under the carpet.

On polished wooden floors, protect the surface from indentation by using an intermediate layer such as the pads sold for spreading the load on castors. We recommend that you fit the spike feet only after deciding on the final position of the speakers. Before fitting them, screw the lock nuts fully onto the threads. Screw the feet fully into the threaded inserts on the bottom of the cabinet and tighten using a 10mm A/F spanner. Stand the cabinet in the intended position. If the cabinet rocks between two opposite feet, undo one of them until the mounting is firm and then tighten that lock nut up against the insert in the cabinet whilst holding the spike to prevent it turning.

ELECTRICAL CONNECTION

All connections should be made with the amplifier switched off.

Each speaker is supplied with two pairs of terminals at the rear of the cabinet. The lower pair connects the low-frequency units and the upper pair the high-frequency units (midrange and high-frequency units on DM640). The two pairs of terminals are connected together on delivery by two plated high-purity copper links. In this situation, either pair of terminals may be used to connect the loudspeaker to the power amplifier.

Connect the positive terminal of the amplifier to a positive terminal on the loudspeaker (marked + and colour coded red) and the negative terminal of the amplifier to a negative (-/black) terminal on the loudspeaker. The terminals will accept bare wire ends or 4mm (0.16in) dia banana plugs.

It is essential to observe the correct polarity when connecting a stereo pair of loudspeakers. Wrong connections to one channel will result in a loss of bass and an inability to focus a correct stereo image. Reversal of the connections to one loudspeaker will restore the situation. In home cinema installations, correct polarity connection becomes even more critical as sound images must be accurately co-ordinated via greater number of loudspeakers with the visual images on screen.

With good quality ancillary equipment, the reproduction of low-level detail can be improved by bi-wiring your speakers (separate cables from a common power amplifier output to each pair of terminals on the speaker), which reduces interaction between the separate sections of the crossover. A further refinement is bi-amplification (each pair of terminals fed from a separate amplifier). In both cases the terminal links should be removed after loosening the terminal caps.

The connecting leads should be kept as short as possible to minimise the series impedance. However, we recommend that you do not trim the length until the loudspeaker position has been finalised. Use a gauge of wire heavy enough to keep the loop impedance as low as possible (preferably below 0.2Ω) to avoid modification of the frequency response. Excessive inductance in the cable can result in a lowering of extreme high frequencies, whilst excessive capacitance can lead to instability in some amplifiers. A polarity coded cable will assist correct connection. Your dealer can advise you on the most suitable cable for your needs.

The importance of sound clean connections in maintaining a distortion-free signal to the loudspeakers cannot be over-emphasised. If using banana plugs, choose a good quality sprung or expanding type. Always firmly finger-tighten the terminal caps, even if using banana plugs, as they may rattle or buzz. It is good practice to remake connections periodically to ensure they remain sound. With bare wire connections, if necessary, cut off the old ends and strip back the insulation to expose clean conductor.

AFTERCARE

The cabinet should be treated as any normal piece of furniture. If you use an aerosol cleaner, spray onto a cloth and keep it away from the front of the loudspeaker, especially the grille cloth and drive units. If you need to clean the grille, first remove the frame by grasping the outer edges near the corners and gently pull away from the cabinet. The material may then be brushed with a normal clothes brush or similar. Please avoid touching the drive units, especially the high-frequency unit, as damage could result.

AMPLIFIER, CONTROL UNIT AND SOURCE EQUIPMENT

THE POWER AMPLIFIER

The recommended limits of power output for the driving amplifier are given in the specification. However, in giving these limits it should also be stated that amplifier power output requirement is an almost impossible figure for the loudspeaker manufacturer to specify. It will depend entirely upon the type of music reproduced, size of listening room and sound level required. It is always better to have an amplifier with high power output, as this allows the proper reproduction of transients; whereas if the amplifier output is too low, clipping can occur during high peak level transients. Apart from causing audible distortion, clipping results in a relative increase in the power fed to the high-frequency unit, with the possibility of thermal damage.

THE CONTROL UNIT

The control unit – although it deals with small voltages rather than large currents as in the case of the power amplifier – is an equally critical part of your listening chain. Choose with care, in the knowledge that the ultimate test for audio components is critical listening.

At B&W's research department there are many different combinations of control units, amplifiers and source components such as analogue/CD players, tuners, etc.

It is our experience that each unit (to say nothing of the interconnecting cable) is a variable, and the final listening chain is a combination of variables which should be carefully listened to before making a final choice.

DM600*i*

DESCRIPTION Stand/shelf mounting, two way, second-order closed-box digital monitor system with bi-wiring/bi-amplification facility. Low-diffraction moulded grille frame.

DRIVE UNITS One 165mm (6.5in) bass/midrange with reinforced polypropylene diaphragm and 25mm (1in) high temperature voice coil on Kapton® former.
One 26mm (1in) high-frequency with metal dome, high temperature voice coil and magnetic fluid cooling.

FREQUENCY RANGE –6dB at 60Hz and 30kHz

FREQUENCY RESPONSE 80Hz–20kHz ±2dB on reference axis

REFERENCE AXIS
Horizontal: 200mm (8.7in) from bottom of cabinet.

DISPERSION Within ±2dB of response on reference axis. 20Hz–15kHz – Horizontal: over 40° arc. Vertical: over 10° arc.

SENSITIVITY 87dB spl (2.83V, 1m)

NOMINAL IMPEDANCE 4Ω

CROSSOVER FREQUENCY 2.5kHz

POWER HANDLING Suitable for amplifiers with 30-100W output continuous into 4Ω on undistorted speech and music programme.

INTERNAL VOLUME 11 litres (0.39 cu ft)

DIMENSIONS
Height: 352mm (13.8in) / Width: 204mm (8in) / Depth: 245mm (9.6in)

NET WEIGHT 4.4kg (9.68lb)

DM610*i*

DESCRIPTION Stand/shelf mounting, two way, second-order closed-box digital monitor system with bi-wiring/bi-amplification facility. Low-diffraction moulded grille frame.

DRIVE UNITS One 200mm (8in) bass/midrange with reinforced polypropylene diaphragm and 30mm (1.2in) high temperature voice coil on Kapton® former.
One 26mm (1in) high-frequency with metal dome, high temperature voice coil and magnetic fluid cooling.

FREQUENCY RANGE –6dB at 52Hz and 30kHz

FREQUENCY RESPONSE 70Hz–20kHz ±2dB on reference axis

REFERENCE AXIS
Horizontal: 350mm (13.8in) from bottom of cabinet.

DISPERSION Within ±2dB of response on reference axis. 20Hz–15kHz – Horizontal: over 40° arc. Vertical: over 10° arc.

SENSITIVITY 89dB spl (2.83V, 1m)

NOMINAL IMPEDANCE 4Ω

CROSSOVER FREQUENCY 2.5kHz

POWER HANDLING Suitable for amplifiers with 30-150W output continuous into 4Ω on undistorted speech and music programme.

INTERNAL VOLUME 21.8 litres (0.77 cu ft)

DIMENSIONS
Height: 490mm (19.3in) / Width: 236mm (9.3in) / Depth: 303mm (11.9in)

NET WEIGHT 7.8kg (17.1lb)

DM620*i*

DESCRIPTION Floor standing, two-way, fourth-order, passive radiator digital monitor system with bi-wiring/bi-amplification facility, gold plated terminals and low-diffraction moulded grille frame.

DRIVE UNITS One 200mm (8in) bass/midrange with rigid die-cast chassis, co-moulded reinforced polypropylene cone/low-hysteresis rubber surround assembly and 31mm (1.2in) dia high-temperature voice coil on Kapton® former. One 26mm (1in) high-frequency with metal dome, high-temperature voice coil and magnetic fluid cooling.

FREQUENCY RANGE –6dB at 44Hz and 30kHz

FREQUENCY RESPONSE 58Hz–20kHz ±2dB on reference axis

REFERENCE AXIS
Horizontal: 605mm (23.8in) from bottom of cabinet.

DISPERSION Within ±2dB of response on reference axis. 20Hz–15kHz – Horizontal: over 40° arc. Vertical: over 10° arc.

SENSITIVITY 90dB (2.83V, 1m)

NOMINAL IMPEDANCE 4Ω

CROSSOVER FREQUENCY 3kHz

POWER HANDLING Suitable for amplifiers with 30-150W output continuous into 4Ω on undistorted speech and music programme.

INTERNAL VOLUME 30.6 litres (1.08 cu ft)

DIMENSIONS Height: 742mm (29.2in) / Width: 236mm (9.3in) / Depth: 302mm (11.9in)

NET WEIGHT 14.2kg (31.2lb)

DM630*i*

DESCRIPTION Floor standing, three-way, fourth-order, variable port, bass reflex digital monitor system with bi-wiring/bi-amplification facility, gold plated terminals and low diffraction moulded grille frame.

DRIVE UNITS Two 200mm (8in) bass/midrange with rigid die-cast chassis, co-moulded reinforced polypropylene cone-/low-hysteresis rubber surround assembly and 31mm (1.2in) dia high-temperature voice coil on Kapton® former.
One 26mm (1in) high-frequency with metal dome, high-temperature voice coil and magnetic fluid cooling.

FREQUENCY RANGE –6dB at 40Hz and 30kHz

FREQUENCY RESPONSE 55Hz–20kHz ±2dB on reference axis

REFERENCE AXIS Horizontal: 710mm (28in) from bottom of cabinet.

DISPERSION Within ±2dB of response on reference axis. 20Hz–15kHz – Horizontal: over 40° arc. Vertical: over 10° arc.

SENSITIVITY 91dB (2.83V, 1m)

NOMINAL IMPEDANCE 4Ω

CROSSOVER FREQUENCY 400Hz and 3kHz

POWER HANDLING Suitable for amplifiers with 30-200W output continuous into 4Ω on undistorted speech and music programme.

INTERNAL VOLUME 52.4 litres (1.85 cu ft)

DIMENSIONS Height: 850mm (33.5in) / Width: 236mm (9.3in) / Depth: 407mm (16.0in)

NET WEIGHT 19.2kg (42.2lb)

DM640*i*

DESCRIPTION Floor standing, three-way, fourth-order, variable port, bass reflex digital monitor system with bi-wiring/bi-amplification facility, gold plated terminals and low-diffraction moulded grille frame.

DRIVE UNITS Two 200mm (8in) bass with rigid die-cast chassis, Cobex diaphragm and 31mm (1.2in) high-temperature voice coil on Kapton® former. One 160mm (6.5in) midrange with rigid die-cast chassis, Kevlar® diaphragm and 31mm (1.2in) high-temperature voice coil on Kapton® former. One 26mm (1in) high-frequency with metal dome, high-temperature voice coil and magnetic fluid cooling.

FREQUENCY RANGE –6dB at 35Hz and 30kHz

FREQUENCY RESPONSE 46Hz–20kHz ±2dB on reference axis

REFERENCE AXIS Horizontal: 830mm (32.7in) from bottom of cabinet.

DISPERSION Within ±2dB of response on reference axis. 20Hz–15kHz – Horizontal: over 40° arc. Vertical: over 10° arc.

SENSITIVITY 91dB (2.83V, 1m)

NOMINAL IMPEDANCE 4Ω

CROSSOVER FREQUENCY 300Hz and 3kHz

POWER HANDLING Suitable for amplifiers with 30-200W output continuous into 4Ω on undistorted speech and music programme.

INTERNAL VOLUME (LF) 56.3 ltrs (2.0 cu ft) / (MF) 3.0 ltrs (0.1 cu ft)

DIMENSIONS Height: 965mm (38.0in) / Width: 236mm (9.3in) / Depth: 407mm (16.0in)

NET WEIGHT 24.0kg (52.8lb)

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B&W LOUDSPEAKERS

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